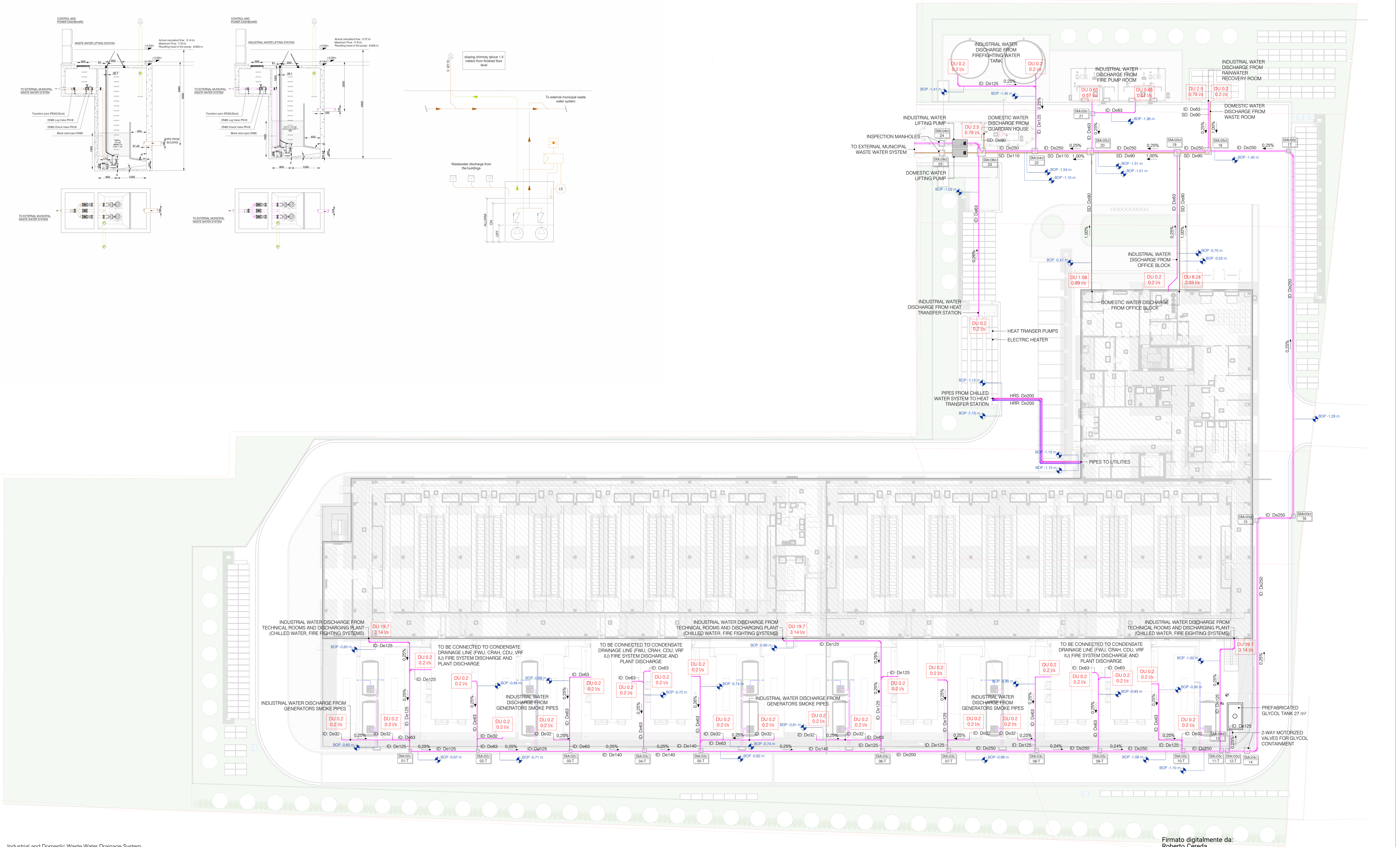
A0 - Do not scale


CONTROL AND POWER DASHBOARD
WASTE WATER LIFTING STATION
Actual calculated flow: 3.14 l/s
Maximum Flow: 17.8 l/s
Resulting head of the pump: 8.845 m
±0,50m
±0,00m
-0.15m
500
81
800
38,1
3460
5000
TO EXTERNAL MUNICIPAL WASTE WATER SYSTEM
Transition joint (PEAD/Steel)
DN65 Lug Valve PN16
DN65 Check Valve PN16
Black steel pipe DN65
650
PIPE FROM BULDING
160
97,48
USEFUL VOLUME ABOVE THE PUMP H 1MT
1500
175
266
544
365
43
800
1200
TO EXTERNAL MUNICIPAL WASTE WATER SYSTEM
CONTROL AND POWER DASHBOARD
INDUSTRIAL WATER LIFTING STATION
Actual calculated flow: 3.72 l/s
Maximum Flow: 17.8 l/s
Resulting head of the pump: 8.845 m
±0,50m
±0,00m
-0.15m
1000
2050
4500
125
100
USEFUL VOLUME ABOVE THE PUMP H 1MT
165,44
TO EXTERNAL MUNICIPAL WASTE WATER SYSTEM
V: Ø110
sloping chimney above 1.5 meters from finished floor level
To external municipal waste water system
Wastewater discharge from the buildings
LS
ALLARM
ON
OFF
INDUSTRIAL WATER DISCHARGE FROM FIREFIGHTING WATER TANK
DU 0.2 0.2 l/s
ID: De125
0,25%
BOP -1,41 m
BOP -1,45 m
INDUSTRIAL WATER DISCHARGE FROM FIRE PUMP ROOM
DU 0.65 0.57 l/s
INDUSTRIAL WATER DISCHARGE FROM RAINWATER RECOVERY ROOM
DU 2.5 0.79 l/s
DOMESTIC WATER DISCHARGE FROM WASTE ROOM
ID: De63
SD: De90
BOP -1,36 m
INDUSTRIAL WATER LIFTING PUMP
DOMESTIC WATER DISCHARGE FROM GUARDIAN HOUSE
INSPECTION MANHOLES
TO EXTERNAL MUNICIPAL WASTE WATER SYSTEM
DOMESTIC WATER LIFTING PUMP
SMc04d 24
SMc04d 25
SMc06e 23
SMc04d 22
SMc03c 21
SMc05d 20
SMc05d 19
SMc05d 18
SMc03c 17
ID: De250
SD: De110
SD: De90
1,00%
BOP -1,54 m
BOP -1,15 m
BOP -1,51 m
BOP -1,01 m
BOP -1,03 m
0,26%
INDUSTRIAL WATER DISCHARGE FROM OFFICE BLOCK
BOP -0,75 m
BOP -0,53 m
BOP -0,43 m
DU 1.58 0.89 l/s
DU 8.24 2.03 l/s
DOMESTIC WATER DISCHARGE FROM OFFICE BLOCK
INDUSTRIAL WATER DISCHARGE FROM HEAT TRANSFER STATION
HEAT TRANSER PUMPS
ELECTRIC HEATER
PIPES FROM CHILLED WATER SYSTEM TO HEAT TRANSFER STATION
HRS: De200
HRR: De200
PIPES TO UTILITIES
BOP -1,29 m
SMc03d 15
SMc03d 16
INDUSTRIAL WATER DISCHARGE FROM TECHNICAL ROOMS AND DISCHARGING PLANT (CHILLED WATER, FIRE FIGHTING SYSTEMS)
DU 19.7 3.14 l/s
TO BE CONNECTED TO CONDENSATE DRAINAGE LINE (FWU, CRAH, CDU, VRF IU) FIRE SYSTEM DISCHARGE AND PLANT DISCHARGE
INDUSTRIAL WATER DISCHARGE FROM GENERATORS SMOKE PIPES
ID: De32
ID: De140
ID: De200
0,24%
SMc02c 01-T
SMc02c 02-T
SMc02c 03-T
SMc03c 04-T
SMc03c 05-T
SMc03c 06-T
SMc03c 07-T
SMc03c 08-T
SMc03c 09-T
SMc03c 10-T
SMc03c 11-T
SMc03d 12-T
SMc04d 13
SMc04c 14
PREFABRICATED GLYCOL TANK 27 m³
2-WAY MOTORIZED VALVES FOR GLYCOL CONTAINMENT

Industrial and Domestic Waste Water Drainage System
1 : 250

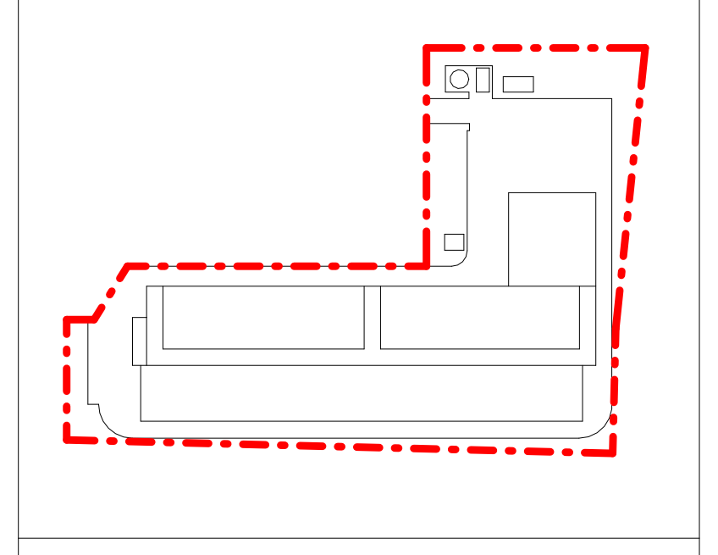
Firmato digitalmente da:
Roberto Cereda
Data: 01/08/2025 12:40:17

General Notes

1. This drawing has been checked in accordance with Black & White Engineering (B&W) QA checking procedures.
2. Do not scale from this drawing. All dimensions indicated are in millimeters unless otherwise stated. Validate all measurements on site.
3. All plant and equipment dimensions are typical. The Contractor should show actual, approved plant and equipment sizes.
4. This drawing is to be read in conjunction with all relevant B&W MEP specifications, schedules and standard key to symbols sheet.
5. Any discrepancies between the drawings and other documents should be brought to the attention of the engineer.
6. This drawing is not an installation drawing. It is the Contractors responsibility to make final coordinated installation shop drawings.
7. Final ceiling coordination subject to interior design package.
8. Contractor to coordinate final distribution routes with available sleeves and openings in beams / structure.
9. The contents of this drawing shall be read in conjunction with the current revisions of other relevant Architectural, Structural, Mechanical and Electrical drawings and all relevant sections of the specifications.

2500 0 2500 5000 7500 10000
SCALE: 1:250
N

Key Plan



Legend: Pipe Systems

SD Soil Water
ID Industrial Water
HRR Heat Rejection Recovery Return
HRS Heat Rejection Supply
BOP -2,35 m Bottom of pipe's quote - BOP

Manhole Tag

Object code → PXXX
Height → XXX
YYY ← progessive number

Object code → DXXX
Progressive number → DXXX

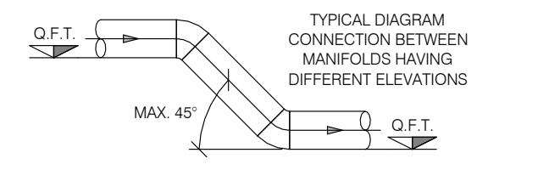
5100 Schedule Plumbing Fixtures

Type Mark	Length	Width	Diameter	Height
CMc02e			600,00	
CMc02g			600,00	
CMc04e			850,00	
PSW01b	500,00	500,00		500,00
SMc01c	300,00	300,00		1000,00
SMc02c	500,00	500,00		1000,00
SMc02d	500,00	500,00		1500,00
SMc03c	700,00	700,00		1000,00
SMc03d	700,00	700,00		1500,00
SMc04c	1000,00	1000,00		1000,00
SMc04d	1000,00	1000,00		1500,00
SMc04e	1000,00	1000,00		2000,00
SMc05d	1200,00	1200,00		1500,00
SMc05e	1200,00	1200,00		2000,00
SMc06d	1500,00	1500,00		1500,00
SMc06e	1500,00	1500,00		2000,00

NOTES PLUMBING AND DRAINAGE SYSTEMS:

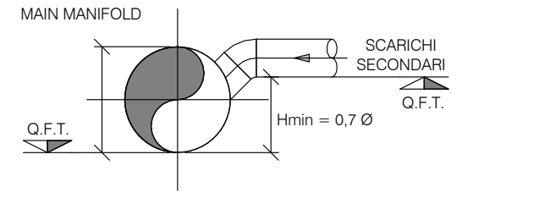
- Supply piping for the water and sanitary utilities within the toilets will be made of multilayer from manifolds.
- In case of supply not derived from manifold, place recessed shut-off taps with cap for each water utility.
- Provide vents at high points and drains (connected to prepared manholes or conduits) at low points, in locations agreed with the DL.
- All drain risers should be equipped with inspectable siphon at the foot, extended above the roof and adequately ventilated.
- Condensate water collection networks must be separate and distinct from those into which they flow by the interposition of permanently wet or dry inspectable odor trap.
- Graywater collection networks must be separate and distinct from those into which they flow by the interposition of an inspectable siphon.
- Stormwater collection networks shall be separate and distinct from blackwater to the collection sumps located upstream of the Inspection/Siphon/Brace unit feeding to the public sewer.
- All discharges collected below the level of discharge to the public sewer shall be conveyed to collection and lifting tanks equipped with electric pumps.
- Testing operations should be carried out while keeping the drainage network continuously visible.
- Provide inspection points in manifolds upstream of each confluence, bend or special piece.
- All discharge pipes, both main and secondary, except where otherwise indicated, shall have the following minimum slopes:

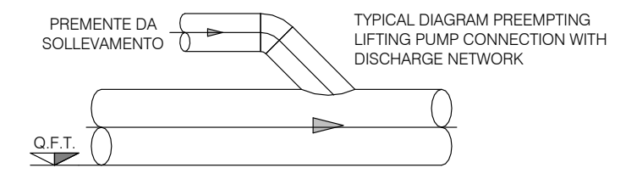
service drains to sewer risers	i=2%.
blackwater / grease collectors	i=1%.
stormwater / condensate manifolds	i=0.5%.


Q.F.T.
MAX. 45°
Q.F.T.

TYPICAL DIAGRAM CONNECTION BETWEEN MANIFOLDS HAVING DIFFERENT ELEVATIONS

TYPICAL DIAGRAM DRAINS CONNECTIONS SECONDARY TO MAIN MANIFOLD


SCARICHI SECONDARI
Q.F.T.
Hmin = 0,7 Ø
Q.F.T.


PREMENTE DA SOLLEVAMENTO
Q.F.T.

TYPICAL DIAGRAM PREEMPTING LIFTING PUMP CONNECTION WITH DISCHARGE NETWORK

GENERAL NOTES:
- Drawing valid only for mechanical installations under contract.
- All measurements and locations of materials and equipment are to be verified on site by the contractor, who shall promptly report any interference with existing.
- Any undetected equipment shall be maintained; if necessary, it shall be modified and restored by the contractor.
- Exact locations of equipment, materials, piping, ducts, connection to existing facilities shall be determined by the contractor and submitted to the construction manager.
- Final sizing according to the manufacturer of the equipment and materials actually installed.
- All equipment must be easily maintainable and accessible via trapdoors or similar solutions even where not specifically specified.
- It will be the contractor's responsibility to size and asseverate all supports, in a workmanlike manner and in compliance with all regulatory requirements for earthquake-proofing.
- Construction detail drawings necessary for the proper execution of the work shall be arranged by the contractor.
- The installation of elements in the field must comply with all manufacturers' prescriptions and recommendations, good engineering rules on acoustics and fire prevention.
- All planned and described interventions, evaluated on the basis of the available documentation, should be re-evaluated and deepened during the works, after plant verification following appropriate surveys of the existing situation.
- The contractor must carefully check the design and report any inaccuracies, incompleteness or discrepancies with any standard or law.
-Connections between two or more sections of duct both with indoor units and with ducts themselves, shall be made only with invitation fittings and not wit hammered derivations or detachments. The Contractor shall be responsible for making construction drawings showing the type of derivations and connections between ducts and ducts with the indoor units provided.

Rev	Details	By / Chkd / App	Date
P02	STAGE 3 - 100% ISSUE	L22	28/02/2025
P01	STAGE 2	L22	11/10/2024

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Project Title
MIL05B

Drawing Title
External Services
Sitewide Soil and Industrial Water Drainage & Heat Rejection Recovery System

Project Status
STAGE 3

Discipline
MECHANICAL

Status Code
S4

Project Number
P10504

Scale @ A0
1:250

Revision
P02

Drawing Number
MIL05B-L22-SW-SW-DR-M-90202

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